

CHAPTER III

RESEARCH METHOD

A. Research Design

Research design played an important role in a research because the quality of research greatly depended on the design. In this research, the writer used the form of quantitative approach to analyze the data. According to Michael J Wallace, states, “Quantitative is broadly used to describe what can be counted or measured and can therefore be considered objective”.¹ The result of the students’ achievement in spoken narrative text using flash animation will be expressed in the language of mathematic, evaluated consequently and also interpreted by appropriate statistical procedures. In this term, quantitative data refers to the use of T-test.

The method employed is experimental research in which its purpose is to search or compare the certain treatment toward other within controlled condition². This kind of experiment is true experimental design in form of pretest-posttest control group design. The experimental group and the control group are the tenth grade of SMA Islam Sultan Agung 1 Semarang in the academic year of 2012/2013. The researcher gave pre-test and post-test to both groups to collect data.

In doing this, the researcher attempts to determine or predict what may occur. An experimental research involved two groups: experimental group and control group. An experimental group received a new treatment while control group received a usual treatment. The design of the experiment can be described as follows³:

¹Michael J Wallace, *Action Research for Language Teacher*, (Cambridge: Cambridge University Press, 1998), p. 38.

²Sugiyono, *Metodologi Penelitian Pendidikan, (Pendekatan Kuantitatif, Kualitatif dan R&D)*, (Bandung: Alfabeta, 2007), 3rd Ed, p. 72.

³Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, (Jakarta: PT. Asdi Mahasatya, 2006), p. 86.

E	01	X	02
C	03	Y	04

Where:

- E : Experimental group
- C : Control group
- 01 : Pre-test for the experimental group
- 02 : Post-test for the experimental group
- 03 : Pre-test for the control group
- 04 : Post-test for the control group
- X : Treatment with Flash animation
- Y : Treatment with non Flash Animation

In the design above, subjects were grouped into an experimental group (top line) and control group (bottom line). Their language proficiency of the subject was first checked by presenting them (01 and 03). The experimental group was taught narrative text with using flash animation, while the control group was taught narrative text without using flash animation. The result of which (02 and 04) were then computed statistically.

B. Research Setting

The research will take place in SMA Islam Sultan Agung 1 Semarang. The location is on Jl. Mataram 657 Semarang. It is selected as the research setting because of many reasons. The reasons why it is selected to be the research setting is its students' varieties. So, there is a great possibility of students' heterogeneity of intellegences and competences, social background and students' characteristics. The important reason, the school is bilingual school and it is completed by multimedia and technological information. Therefore, it makes easy the researcher to do the research. The next reason for choosing the tenth year students is based on consideration that students of senior high school are at the age of searching such pleasure, even in their learning activities. Giving fun way as an alternative to motivate the students is needed to be done by teacher of English.

This research was hold in first semester on 30 July 2012 until 5 September 2012. The researcher took two classes. The first class was an experimental class and the second is a control class. The researcher gave pre-test to both classes to know how understand the students in the lesson then the researcher gave treatment twice to both classes. After doing treatment, the researcher gave both classes post-test to measure students' achievement after giving treatments.

C. Population and Sample of The Research

1. Population

Population is “the whole subject of research”.⁴ Jack R. Fraenkle and Norman E. Wallen states, “Population can be defined as a group to whom the researcher would like to generalize the result of the study.”⁵ In this research, population of this research is the tenth grade students of SMA Islam Sultan Agung 1 in the academic year of 2012/2013. The tenth grade of SMA Islam Sultan Agung 1 is divided into seven classes. The total number of population is 210 students.

2. Sample

Sampling is the process done to choose and take sample correctly from population so that it can be used as valid representative to the population.⁶ Because the population of the study is very big, the researcher did not take all the subject of the population. The researcher took some subjects from the population. The research is an experimental research, so the researcher needs to take two classes that will be an experimental and control class as the sample from seven classes of the population. To determine the two classes, the researcher used simple random sampling technique. The subject/sample is taken at random by taking lottery.⁷ They are class X2 as a control class and class X1 as an experimental

⁴Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, p. 130.

⁵Jack R Fraenkle, Norman E Wallen, *How to Design and Evaluate Research in Education*, (New York: The McGraw-Hill Companies, 2006) 6th Ed, p. 267.

⁶Sugiyono, *Metodologi Penelitian Pendidikan, (Pendekatan Kuantitatif, Kualitatif dan R&D)*, p. 81.

⁷Sugiyono, *Metodologi Penelitian Pendidikan, (Pendekatan Kuantitatif, Kualitatif dan R&D)*, p. 82.

class. Class X2 was chosen as the control group which was taught by means of non flash animation, while class X1 was chosen as the experimental group which was taught by means of flash animation.

D. Variable and Indicator

According to Sugiono, research variables are all things that shape what is defined by the researches to be studied in order to obtain information about it, and the conclusion drawn on next. There are two types of variables: independent variable and dependent variable. So the variable in this study are:

1. Independent variable

Independent variable is variable that influences or those to be cause of change the dependent variable.⁸ Independent variable of this research was the use of flash animation in teaching spoken narrative.

2. Dependent variable

Dependent variable is variable that was affected or that be the result because of the existence of the independent variable.⁹ The dependent variable of this study was the students' achievement in the speaking test score in narrative text.

Based on the variables above, the researcher can make indicators that support the variables. The schema of indicators are stated as follows:

Variable	Indicators
1.(Independent Variable) Using flash animation in teaching spoken narrative text.	. a. Playing flash animation about the legend of prambanan temple. b. Instructing student to identify the content of the legend of Prambanan temple.

⁸Sugiyono, *Metodologi Penelitian Pendidikan, (Pendekatan Kuantitatif, Kualitatif dan R&D)*, p. 39.

⁹Sugiyono, *Metodologi Penelitian Pendidikan, (Pendekatan Kuantitatif, Kualitatif dan R&D)*, p. 39.

	<p>c. Instructing student to identify the generic structure and language feature of the legend of Prambanan temple.</p> <p>d. Instructing is to retelling the legend of Prambanan temple.</p>
2.(Dependent Variable)	
Students' achievement in the speaking test score in narrative text.	
Sub-Variable	Indicators
a. Sub-Variable; Students' ability in understanding narrative text.	<p>1) Identifying the generic structure and language feature of narrative text.</p> <p>2) Identifying the social function of narrative text.</p>
b. Sub-Variable; Students' ability in explaining narrative text.	<p>1) Explaining main idea of a paragraph.</p> <p>2) Explaining content of narrative text.</p>
c. Sub-Variable; Students' ability in composing narrative text orally	<p>1) Retelling story from a case using their own words.</p>

E. Data Collection Technique

In conducting this study, especially in collecting the data, the researcher needs some methods in order to obtain the expected data.

1. Test

Test is a set of questions and exercises used to measure the achievement or capacity of the individual or group.¹⁰ According to Addison Wesley Longman, states, “test is a set of questions and exercises used to measure the achievement or capacity of the individual or group”.¹¹ In order to discover how students are thinking and using the target language (English). The form of the test was direct test item of speaking because the writer put the students in individual and asked them to perform a based on the topic given. The topic was “presenting of a case and retelling it”. The writer analyzed the result of the test and gave score. Harmer states that a test item is direct if it asks candidates to perform the communicative skill which is being test.

The test conducted to both control class and experimental class which consist of 30 students of control class and 30 students of experiment class in form of speaking narrative text to evaluate students' speaking before and after the treatment. The scoring system payed attention to the four aspect of speaking scoring: grammar, vocabulary, fluency, pronunciation.

Test is used to measure the person's competence and to achieve the objective. The data was collected by giving speaking test. Speaking was conducted twice, there are pre-test and post-test. The form of the test is direct speaking test and the teacher gave scores on pronunciation, grammar, vocabulary, fluency, and comprehension.

2. Documentation

Documentation is a piece of written or printed material that provides a record of evidence or event an agreement, ownership, identification etc.¹² Documentation is the accumulation, classification, and dissemination of information.¹³ It refers to the archival data that helps the researcher to collect the

¹⁰Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, p. 150.

¹¹H. Douglas Brown, *Teaching by Principle: An Interactive Approach to Language Pedagogy*, (New York : A Person Education Company, 2001), 2nd Ed, p.384.

¹²Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, p. 231.

¹³John Eastwood, *Concise Oxford Dictionary*, 8th Ed, p. 256.

needed data. In this research, this technique is used to get the data that is related to the object research such as students name list included in the population. In this case, the data is gained by the help of the English teacher.

F. Data Analysis Technique

There are three kinds of tests that will be held in experimental research, they are pre-requisite test, try-out test, hypothesis test. So there must be two processes of analyzing the data collected from test.

1. Pre-requisite test

Before testing the hypothesis that is to compare the difference of students' academic achievement using t-test formula, there is a pre-request test to know the legality of the sample. Here, the normality and homogeneity test are employed.

a. Normality test

It is used to know the normality of the data that is going to be analyzed whether both groups have normal distribution or not. The normality test with Chi Square test as follow:

$$\chi^2 = \sum_{i=1}^k \frac{(O_i - E_i)^2}{E_i}$$

Where:

χ^2 = Chi-square

O_i = Frequency that was obtained from data

E_i = Frequency that was hoped

K = The sum of interval class

If the obtained score was lower than t-table score by using 5% alpha of significance, H_0 was accepted. It was meant that H_a was rejected.

b. Homogeneity test

Before the researcher determines the sample, the writer should conduct a homogeneity test by choosing two classes with simple random sampling. This test conducted to determine whether the data are homogenous or not. After conducted the test, data analysis was carried out to find out the homogeneity of the sample. It was meant to check if the research result met the requirement of

good research or not. It was meant to get the assumption that sample of research came from a same condition or homogenous. The writer used the formula as follows.¹⁴

$X^2 = (\text{Ln } 10) \{ B - S(n_i-1) \log S_i^2 \}$ With:

$B = (\text{Log } S^2) S (n_i - 1)$ and

$$S^2 = \frac{\sum (n_i - 1) S_i^2}{\sum (n_i - 1)}$$

Adopted from Sudjana

Where:

X^2 = chi quadrate

S_i^2 = i-variance

n_i = number of participant

k = the sum of the interval class

If the score of X^2 count $< X^2$ with significant 5% and $dk = k-1$ so the data is homogeneous. The writer uses the formula below to measure the hypothesis:

$$F = \frac{\text{Biggest Variance}}{\text{Smallest Variance}}$$

Adopted from Sugiono.¹⁵

2. Hypothesis test

a. Normality Test

Steps normality second step is the same as the normality test on the initial data.

b. Homogeneity Test

Steps homogeneity second step is the same as the homogeneity test on the initial data.

b. Test Average (Right-hand Test)

T-test was used to differentiate if the students' result of students' speaking skill in speaking narrative text by using and without using was

¹⁴Sugiyono, *Statistika Untuk Penelitian*, (Bandung: Alfabeta, 2007) p. 140.

¹⁵Sugiyono, *Statistika Untuk Penelitian*, p. 140.

significant or not. Proposed hypothesis test in average similarity with the right test is as follows:

$$H_0 = \mu_1 = \mu_2$$

$$H_a = \mu_1 \neq \mu_2$$

The formula is:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

where

$$s = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

Where:

\bar{x}_1 = the mean score of the experimental group

\bar{x}_2 = the mean score of control group

n_1 = the number of the experimental group

n_2 = the number of the control group

s = standard deviation

s^2 = variance¹⁶

If the obtained score was higher than t-table score by using 5% alpha of significance, H_0 was rejected. It meant that H_a was accepted. Therefore the experimental class was better than control class. There was a significant difference between the speaking narrative style teaching using flash animation and without flash animation for the tenth grade students of SMA Islam Sultan Agung 1 Semarang. Teaching spoken narrative text by flash animation is more effective than without flash animation.

¹⁶Sugiyono, *Metodologi Penelitian Pendidikan, (Pendekatan Kuantitatif, Kualitatif dan R&D)*, p. 197.